

What is claimed is:

- 1           1. A dielectric material composition, comprising a  
2 metal oxide having a formula of:  
3            $Y_{1-x}M^1_xMn_{1-y}M^2_yO_m$ ,  
4           wherein  
5            $M^1$  is Y, Ho, Er, Yb, Tm, or Lu;  
6            $M^2$  is Ti, Zr, V, Mo, Mg, Cu, or Zn;  
7           x is a number of 0 to 1;  
8           y is a number of 0 to 1; and  
9           m satisfies the principle of electrical neutrality for  
10           the metal oxide.
- 1           2. The dielectric material composition as claimed in  
2 claim 1, wherein  $M^1$  is Y, Er, or Yb.
- 1           3. The dielectric material composition as claimed in  
2 claim 2, wherein  $M^1$  is Y.
- 1           4. The dielectric material composition as claimed in  
2 claim 1, wherein  $M^2$  is Ti, La, Ce, Cr, or V.
- 1           5. The dielectric material composition as claimed in  
2 claim 4, wherein  $M^2$  is Ti.
- 1           6. The dielectric material composition as claimed in  
2 claim 1, wherein x is a number of 0 to 0.1.
- 1           7. The dielectric material composition as claimed in  
2 claim 1, wherein y is a number of 0.35 to 0.65.

1        8. The dielectric material composition as claimed in  
2        claim 1, wherein the metal oxide is  $YMn_{1-y}Ti_yO$ ,  $0.35 \leq y \leq$   
3        0.65.

1        9. The dielectric material composition as claimed in  
2        claim 1, wherein the dielectric material composition is  
3        manufactured from a method of solid state reaction.

1        10. The dielectric material composition as claimed in  
2        claim 1, wherein the dielectric material composition is  
3        manufactured from a method of liquid phase reaction.

1        11. The dielectric material composition as claimed in  
2        claim 1, wherein the dielectric material composition is in a  
3        bulk form.

1        12. The dielectric material composition as claimed in  
2        claim 1, wherein the dielectric material composition is in a  
3        film form.

1        13. The dielectric material composition as claimed in  
2        claim 1, wherein the dielectric constant of the dielectric  
3        material composition is more than 29.

1        14. The dielectric material composition as claimed in  
2        claim 13, wherein the dielectric constant of the dielectric  
3        material composition is more than 350.

1        15. The dielectric material composition as claimed in  
2        claim 1, wherein the quality factor of the dielectric  
3        material composition is more than 450.

1           16. The dielectric material composition as claimed in  
2' claim 15, wherein the quality factor of the dielectric  
3 material composition is more than 650.